

N<sup>o</sup> 24,641



A.D. 1895

Date of Application, 23rd Dec., 1895

Complete Specification Left, 12th Oct., 1896—Accepted, 14th Nov., 1896

PROVISIONAL SPECIFICATION.

Improvements in Photographic Lenses.

I, THOMAS RUDOLPHUS DALLMEYER, of 25 Newman Street, in the County of Middlesex, do hereby declare the nature of this invention to be as follows:—

5 In older types of lenses, especially portrait lenses, in which the character of the glasses employed necessitated a higher dispersive power to accompany a higher refractive index (a condition no longer necessarily existing since the invention of the Jena glasses) flatness of field always involved astigmatic aberration or if the astigmatic error was practically eliminated the curvature of field was considerable. The construction of the best forms of the older types has been the most skilful compromise between these errors.

10 The object of this invention is to remedy this defect by an astigmatic corrector which eliminates the residual errors (of astigmatism and curvature of field) of the older forms of positive lenses, largely increasing their covering power at the expense of an inconsiderable lengthening of the focus.

15 For this purpose I place behind any of the old forms of lenses a negative combination consisting of a double concave lens cemented to a double convex lens of greater dispersive material and higher refractive index.

Dated this 23rd day of December 1895.

THOMAS R. DALLMEYER.

COMPLETE SPECIFICATION.

20 Improvements in Photographic Lenses.

I THOMAS RUDOLPHUS DALLMEYER, of 25, Newman Street, in the County of Middlesex, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

25 In older types of lenses, especially portrait lenses, in which the character of the glasses employed necessitated a higher dispersive power to accompany a higher refractive index (a condition no longer necessarily existing since the invention of the Jena glasses) flatness of field always involved astigmatic aberration or if the astigmatic error was practically eliminated the curvature of field was considerable.

30 The construction of the best forms of the older types has been the most skilful compromise between these errors.

The object of this invention is to remedy this defect by an astigmatic corrector which eliminates the residual errors (of astigmatism and curvature of field) of the older forms of positive lenses, largely increasing their covering power at the expense of an inconsiderable lengthening of the focus.

35 For this purpose I place behind any particular form of the old types of lenses after having determined the residual errors referred to, my astigmatic corrector which is calculated to eliminate these errors. The form necessary to do this in the case of Petzval's construction consists of a negative combination consisting of a double concave lens cemented to a double convex lens of greater dispersive material and higher refractive index.

[Price 8s.]

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*Dallmeyer's Improvements in Photographic Lenses.*

This reversal of material applies in every case, but the shapes of the lenses may be varied for some of the older types of lenses.

The drawing shows my invention applied to the well known Petzval lens made up of four lenses A, B, C and D.

The lenses E and F shown in dotted lines form my astigmatic corrector. 5

The radii of curvature of the lenses are as follows :—

$r^1 = 4.725$ inches	}	A and B
$r^2 = 3.735$ "		
$r^3 = 34.5$ "		
$r^4 = 9.85$ "	}	C
$r^5 = 3.405$ "		
$r^6 = 4.25$ "	}	D
$r^7 = 13.155$ "		
$r^8 = 6.95$ "	}	E and F
$r^9 = 8.85$ "		
$r^{10} = 27.5$ "		

10

The indices of refraction are :—

	$\mu$ for D line	$\mu$ for H $\gamma$ line
A	1.5151	1.5267
B	1.5738	1.5919
C	1.5738	1.5919
D	1.5179	1.5288
E	1.5179	1.5288
F	1.5738	1.5919

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Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is :— 20

1. The combination with the older forms of positive lenses of a negative compound lens consisting of a negative lens and a positive lens of greater dispersive material and higher refractive index substantially as described.

2. The combination with the older forms of positive lenses of a negative compound lens consisting of a double concave lens and a lens of greater dispersive material and higher refractive index substantially as described. 25

3. Photographic lenses substantially as described and shewn in the drawing.

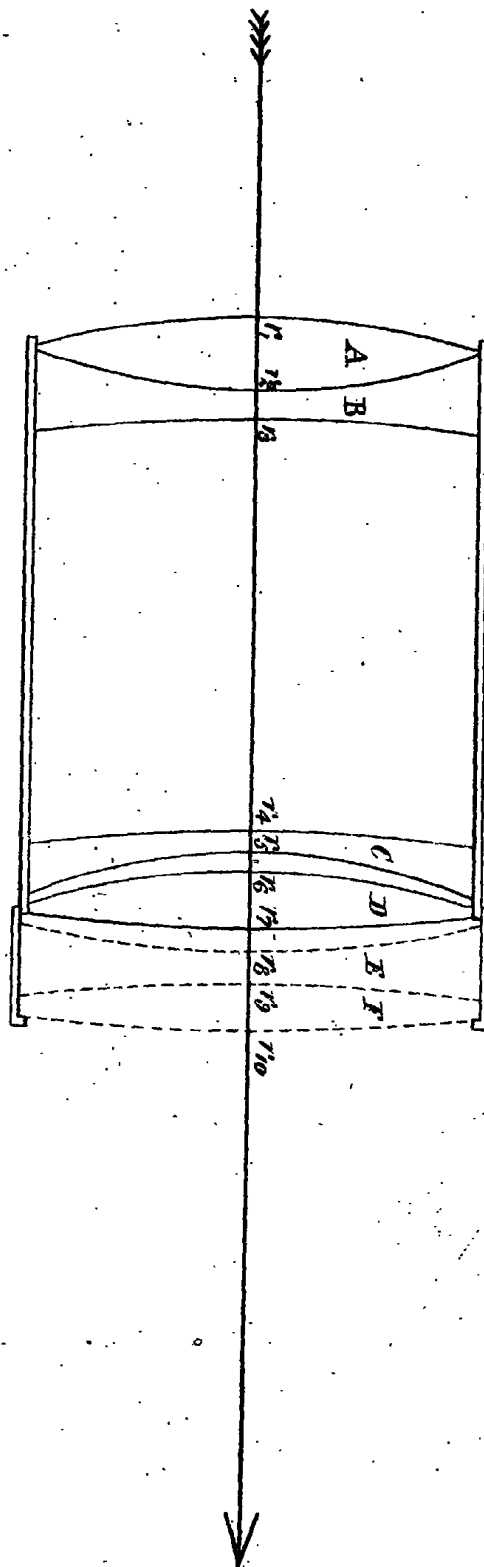
Dated this 10th day of October 1896.

THOMAS R. DALLMEYER. 30

A.D. 1895. Dec. 23. N.º 24,641.

DALLMEYER'S COMPLETE SPECIFICATION.

(1 SHEET)



[This Drawing is a reproduction of the Original on a reduced scale.]